Shift in energy supply from fossil fuels to renewables

Figure 1.17  Fossil and non-fossil energy supply by scenario, 2020-2050

Source: IEA World Energy Outlook 2022
Energy investment in advanced economies and China is already largely in clean energy, no longer fossil fuels

Figure 2.7 Global energy investment by region

Source: IEA World Energy Outlook 2022
Transformation of the global energy system needs a massive scaling of investment

Figure 1.18: Energy investment in the NZE Scenario, 2021 and 2030

- Total energy
  - 2021: 1 Trillion USD
  - NZE 2030: 5 Trillion USD (2.1x increase)

- Clean energy
  - 2021: 2 Trillion USD
  - NZE 2030: 6 Trillion USD (3.2x increase)

- End-use and efficiency
  - 2021: 3 Trillion USD
  - NZE 2030: 9.6 Trillion USD (3.6x increase)

- EMDE*
  - 2021: 4 Trillion USD
  - NZE 2030: 10.7 Trillion USD (2.7x increase)

Source: IEA World Energy Outlook 2022

IEA, CC BY 4.0.
A huge gap remains between finance currently committed to climate change action (incl clean energy) and what is needed: IPCC

Figure TS.25: Mitigation investment flows fall short of investment needs across all sectors and types of economy, particularly in developing countries.

Source: IPCC 6AR, WGIII Mitigation
COP issues relevant for energy transition - context

Energy Crisis
• A focus on national energy security, and less emphasis on climate policy
• Filling back for Russian fossil fuels in Europe – short term
• Increased investment in renewables, electrification, energy efficiency – dominant in medium to longer term – will bring prices down for everyone

Worsening geo-strategic situation
• Focus is on national security – commitment to multilateral forums suffers
• But possible strengthening of alliances – eg G7 open ‘climate club’
Emissions targets/NDCs

• Global Stocktake process – a mixed picture
• Waiting for updated NDCs – next stop 2035 targets

Climate Finance

• Big gaps remain – outlook for transfers from developed countries is worse now.